GE ELECTRONICS

6AR11
COMPACTRON TWIN PENTODE
DESCRIPTION AND RATING

The 6AR11 is a compactron containing two remote-cutoff pentodes. It is designed primarily for intermediate-frequency amplifier service in television receivers.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current‡	0.8	Amperes

Direct Interelectrode Capacitances§

Section 1

Grid-Number 1 to Plate: (1g1 to 1p)	0.026	pf
Input: 1g1 to (1k + 1g2 + 1g3 + h + i.s.)	10	pf
Output: 1p to (1k + 1g2 + 1g3 + h + i.s.)	2.8	pf

Section 2

Grid-Number 1 to Plate: (2g1 to 2p)	0.026	pf
Input: 2g1 to (2k + 2g2 + 2g3 + 1g3 + h + i.s.)	10	pf
Output: 2p to (2k + 2g2 + 2g3 + 1g3 + h + i.s.)	3.0	pf

Coupling

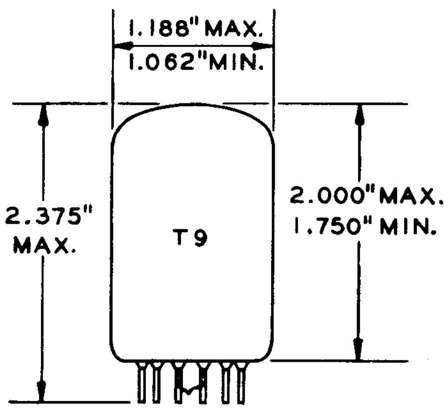
Plate to Plate: (1p to 2p), maximum	0.016	pf
Grid-Number 1, Section 1, to Plate, Section 2: (1g1 to 2p), maximum	0.002	pf
Grid-Number 1, Section 2, to Plate, Section 1: (2g1 to 1p), maximum	0.004	pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-58

Maximum Diameter	1.188	Inches
Minimum Diameter	1.062	Inches
Maximum Over-all Length	2.375	Inches
Maximum Seated Height	2.000	Inches
Minimum Seated Height	1.750	Inches

PHYSICAL DIMENSIONS

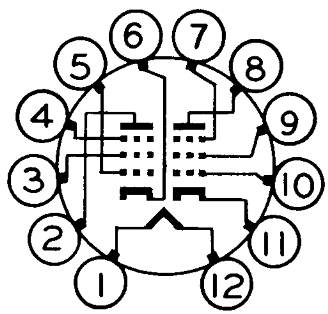


EIA 9-58

TERMINAL CONNECTIONS

Pin 1 - Heater
Pin 2 - Plate (Section 2)
Pin 3 - Grid Number 2 (Screen) (Section 2)
Pin 4 - Grid Number 3 (Suppressor) (Section 2)
Pin 5 - Grid Number 1 (Section 2)
Pin 6 - Cathode (Screen 2)
Pin 7 - Grid Number 3 (Suppressor) (Section 1) and Internal Shield
Pin 8 - Plate (Section 1)
Pin 9 - Grid Number 2 (Screen) (Section 1)
Pin 10 - Grid Number 1 (Section 1)
Pin 11 - Cathode (Section 1)
Pin 12 - Heater

BASING DIAGRAM



EIA 12DM

Supersedes Pages 1 and 2 of 6AR11 D and R Sheet dated 12-63

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES, Each Section

Plate Voltage	330	Volts
Suppressor Voltage	0	Volts
Screen-Supply Voltage	330	Volts
Screen Voltage - See Screen Rating Chart		
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	3.1	Watts
Screen Dissipation	0.65	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS, Each Section

Plate Voltage	125	Volts
Suppressor, Connected to Cathode at Socket		
Screen Voltage	125	Volts
Cathode-Bias Resistor	56	Ohms
Plate Resistance, approximate	0.2	Megohms
Transconductance	10500	Micromhos
Plate Current	11	Milliamperes
Screen Current	3.5	Milliamperes
Grid-Number 1 Voltage, approximate		
Gm = 50 Micromhos	-15	Volts

NOTES

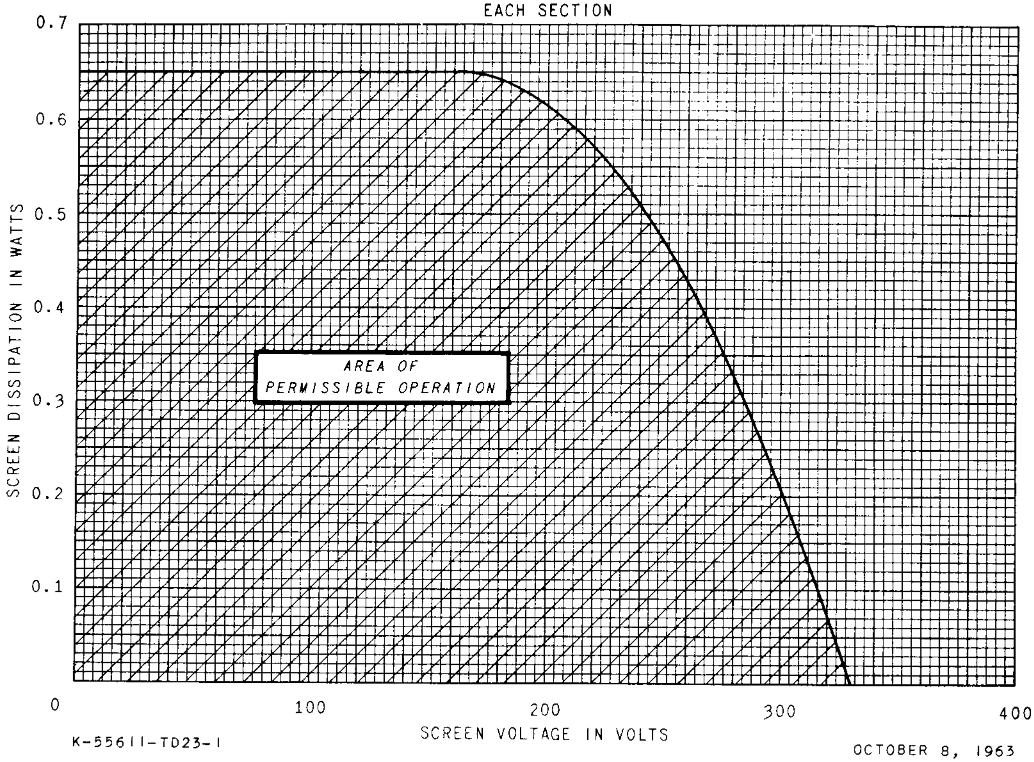
* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ With external shield (EIA 309) connected to cathode of section under test.

SCREEN RATING CHART

EACH SECTION

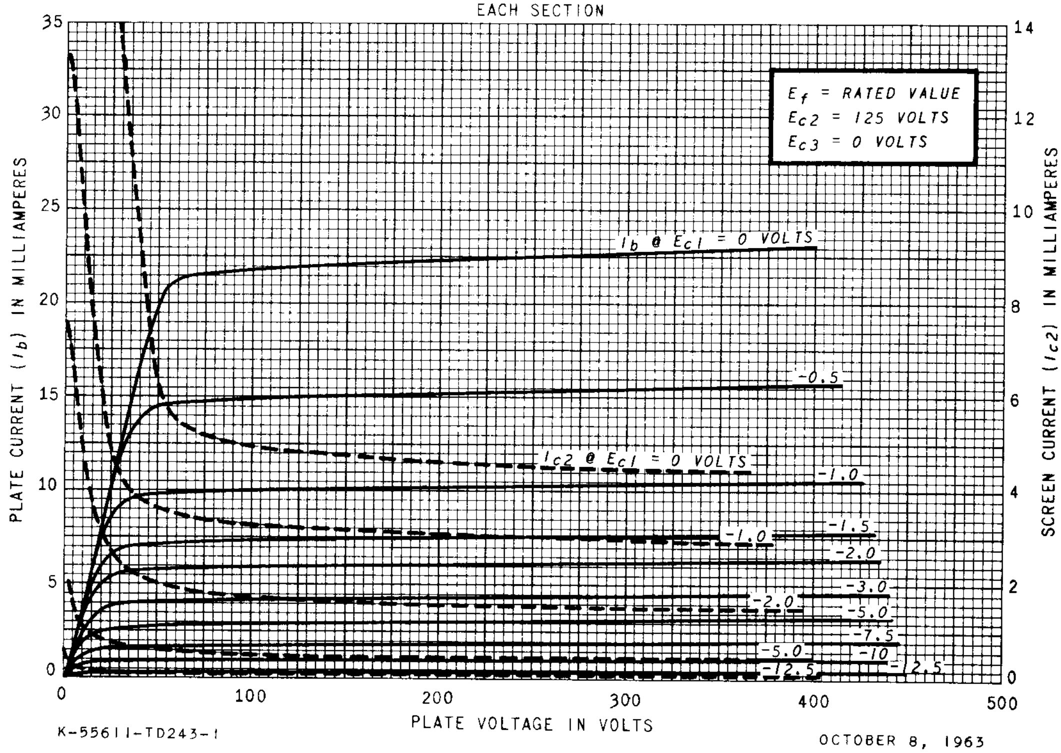


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OCTOBER 8, 1963

AVERAGE PLATE CHARACTERISTICS

EACH SECTION

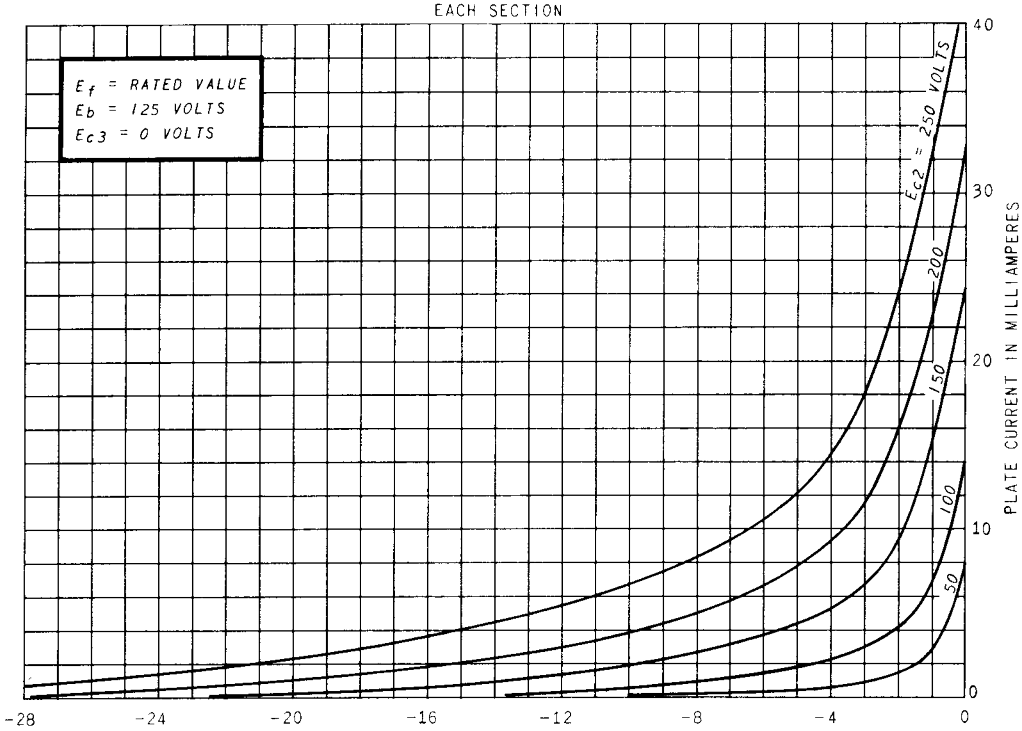


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OCTOBER 8, 1963

AVERAGE TRANSFER CHARACTERISTICS

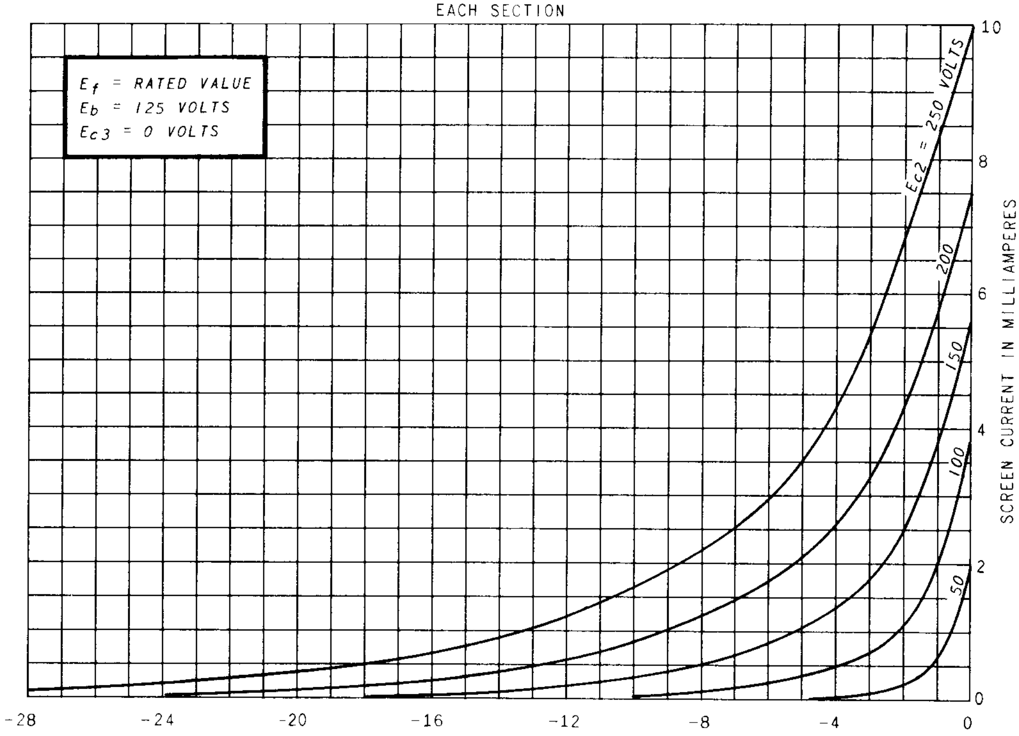
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AVERAGE TRANSFER CHARACTERISTICS

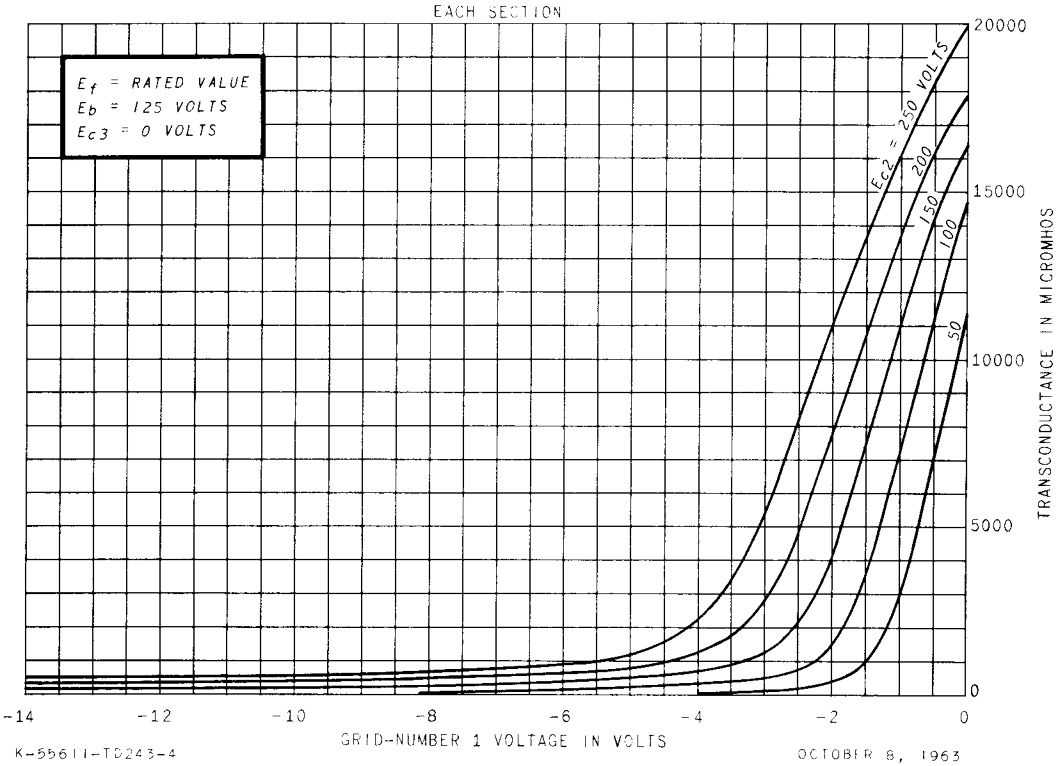
EACH SECTION



K-55611-TD243-3

OCTOBER 8, 1963

AVERAGE TRANSFER CHARACTERISTICS



TUBE DEPARTMENT
GENERAL ELECTRIC
Owensboro, Kentucky